

**REMARKS**

An Excess Claim Fee Payment Letter is submitted herewith to cover the cost of one excess independent claim.

Claims 1-8 and 13-21 are all the claims presently pending in the application. Claims 9-12 have been canceled. Claims 1-4, 6, 7, 13 and 17 have been amended to more particularly define the invention. Claim 21 has been added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claim 1 stands rejected under 35 U.S.C. § 112, first paragraph as allegedly being not enabled. Applicant notes that claim 1 has been amended to address the Examiner's concern. Therefore, claim 1 is clearly enabled, and the Examiner is respectfully requested to withdraw this rejection.

Claims 1 and 13-20 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. As noted above, claim 1 has been amended to address the Examiner's concern. Further, Applicant notes that claims 13 and 17 have been amended to delete the dependency on claim 9. Therefore, claims 1 and 13-20 are clearly not indefinite, and the Examiner is respectfully requested to withdraw this rejection.

Claims 13-20 stand rejected under 35 U.S.C. § 112, fourth paragraph as allegedly failing to be in proper dependent form. However, as noted above, claims 13 and 17 have been amended to delete the dependency on claim 9. Therefore, claims 13-20 are clearly in proper form, and the Examiner is respectfully requested to withdraw this rejection.

Claims 1-8 and 13-20 stand rejected on the ground of obviousness-type double patenting as being allegedly unpatentable over claims 1-3, 6 and 22 of Kagami et al. (U. S. Patent No. 6,703,188). However, Applicant would point out that Kagami is assigned to Kabushiki Kaisha Toyota Chuo Kenkyusho (e.g., see reel/frame 014849/0463), whereas the present Application is

assigned to Toyoda Gosei Co., Ltd, Kabushiki Kaisha Toyota Chuo Kenkyusho, and Toagosei Co., Ltd.. **Therefore, the present Application is not commonly assigned with Kagami.** In view of the foregoing, the Examiner is respectfully requested to withdraw this rejection.

Claims 1-8 and 13-20 stand rejected under 35 U.S.C. § 103(a) being allegedly unpatentable over Kagami et al. (JP-2000-347043) (hereinafter, "JP '043").

This rejection is respectfully traversed in view of the following discussion.

#### **I. EXEMPLARY ASPECT OF THE CLAIMED INVENTION**

An exemplary aspect of the claimed invention (e.g., as recited in claim 1 and similarly recited in claims 3, 6, 13 and 17) is directed to a method of producing an optical waveguide. The method includes forming an optical member for use in optical transmission, and emitting leakage light from the optical member to cure a photo-curable resin on a surface of the optical member, the cured photo-curable resin being deposited on the surface and having a lower refractive index than a refractive index of an outer circumference of the optical member (Application at page 51, line 21-page 54, line 13).

Conventionally, a waveguide may be formed by introducing a beam-like light into a photo-curable resin mixture solution. However, in conventional waveguides a refractive index in the core may increase slightly from the center to the periphery of the core, which may cause a problem with coupling efficiency (Application at page 3, lines 5-19).

The claimed invention, on the other hand, may include emitting leakage light from the optical member to cure a photo-curable resin on a surface of the optical member, the cured photo-curable resin being deposited on the surface and having a lower refractive index than a refractive index of an outer circumference of the optical member. This may help to provide a refractive index of at least one portion of the cured photo-curable resin that decreases monotonously as the position of the cured photo-curable resin goes farther from the surface of the optical member (Application at page 10, lines 13-23).

## II. THE ALLEGED PRIOR ART REFERENCE

The Examiner alleges that JP '043 makes obvious the claimed invention of claims 1-8 and 13-20. Applicant submits, however, that there are features of the claimed invention that are not taught or suggested by JP '043.

In particular, Applicant submits that JP '043 does not teach or suggest "*emitting leakage light from said optical member to cure a photo-curable resin on a surface of said optical member, said cured photo-curable resin being deposited on said surface and having a lower refractive index than a refractive index of an outer circumference of said optical member*", as recited, for example, in claim 1 (and similarly recited in claims 3, 6, 13 and 17) (Application at page 51, line 21-page 54, line 13). As noted above, this may help to provide a refractive index of at least one portion of the cured photo-curable resin that decreases monotonously as the position of the cured photo-curable resin goes farther from the surface of the optical member (Application at page 10, lines 13-23).

Clearly, this novel feature is not taught or suggested by JP '043.

Indeed, Applicant would first point out that the Examiner have failed to properly support the rejection. Applicant would remind the Examiner that 37 C. F. R. 1.104(b) provides that "[t]he Examiner's action **will be complete** as to all matters" (emphasis added), and more particularly, 37 CFR 1.104(c)(2) **requires** that when the Examiner rejects a claim for lack of novelty or obviousness, "**the particular part relied on must be designated**" by the Examiner (emphasis added). In addition, MPEP §707.07 provides that "[w]here a claim is rejected for any reason related to the merits thereof it should be 'rejected' and the ground of rejection fully and clearly stated" (emphasis added).

In this case, the Examiner has NOT designated the particular part of the reference relied on in rejecting the claims, and has NOT fully and clearly stated any grounds for rejecting the claims. Therefore, the Office Action is clearly incomplete and a new non-final Office Action should be provided to Applicant.

Further, the Examiner alleges that JP '043 teaches "leakage light" because JP '043 "teaches emission from the fiber tip". However, Applicant would point out that light emitted

from an optical fiber tip would not likely be considered by one of ordinary skill in the art to be a "leakage light". Moreover, the Examiner's construction of the term is clearly contrary to the specification (e.g., see page 52, lines 13-25).

Further, the Examiner attempts to rely on paragraphs [0005]-[0007] and [0028] to support his position. However, JP '043 simply discloses an optical molding method in which an end of an optical fiber 200 is put into a mixture of first and second photosetting resin solutions, and light having a wavelength  $\lambda_1$  is emitted from the fiber 200 to cure the first resin solution and form a core part 105, and then the mixture is irradiated with light having a wavelength  $\lambda_2$  from outside of the mixture to form the clad part 106 (JP '043 at Abstract).

That is, even assuming arguendo that JP '043 teaches a core part 105 and that somehow the core part 105 may be equated with the "optical member" of the claimed invention, nowhere does JP '043 teach or suggest **emitting leakage light from the core part 105 to cure a photo-curable resin on a surface of the core part 105**.

Therefore, JP '043 does not teach or suggest emitting leakage light from the optical member to cure a photo-curable resin on a surface of the optical member, the cured photo-curable resin being deposited on the surface and having a lower refractive index than a refractive index of an outer circumference of the optical member, as in an exemplary aspect of the claimed invention.

Therefore, Applicant submits that there are features of the claimed invention that are not taught or suggested by JP '043. Therefore, Applicant respectfully requests that the Examiner withdraw this rejection.

### III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-8 and 13-22, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the

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Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

To the extent necessary for submitting this response, Applicant hereby petitions for an extension of time under 35 C. F. R. 1.136. The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,



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